

Claims

[c1] 1. A switch assembly, comprising:

- a heat sink;
- a first switch module connected to the heat sink, the first switch module having first and second switch devices, each switch device having a gate terminal;
- a second switch module connected to the heat sink, the second switch module having first and second switch devices, each switch device having a gate terminal;
- a first power source input terminal connected to a cathode terminal of the second switching device of the first switch module and an anode terminal of the first switching device of the second switch module;
- an output terminal connected to an anode terminal of the second switching device of the first switch module and a cathode terminal of the first switching device of the second switch module;
- wherein the gate terminals of the switching devices

are controllable such that the first switch module conducts during a first portion of the power duty cycle and the second switch module conducts during a second portion of the power duty cycle.

- [c2] 2. The switch assembly of claim 1, further comprising a second power source input terminal connected to an anode terminal of the first switching device of the first switch module and a cathode terminal of the second switching device of the second switch module.
- [c3] 3. The switch assembly of claim 1, wherein the first and second switch modules are connected to the heat sink via a compression bond.
- [c4] 4. The switch assembly of claim 1, wherein the switch devices comprise SCRs.
- [c5] 5. A method of operating switching modules coupled to a common heat sink, each of the switching modules having first and second switch devices, the method comprising:
 - applying a source voltage to the switching modules;
 - conducting a positive portion of the source voltage through the second switch device of the first switching module; and

conducting a negative portion of the source voltage through the first switch device of the second switching module.

[c6] 6. The method of claim 5, further comprising applying a second source voltage to the switching modules.